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(FILE 'HOME' ENTERED AT 11:15:51 ON 16 NOV 2004)

FILE 'STNGUIDE' ENTERED AT 11:15:54 ON 16 NOV 2004

FILE 'INSPEC' ENTERED AT 11:16:03 ON 16 NOV 2004

L1 16401 GAN  
L2 1645 GALLIUM(A) NITRIDE  
L3 16502 L1 OR L2  
L4 15503 RIDGE

FILE 'INSPEC' ENTERED AT 11:18:21 ON 16 NOV 2004

L5 119582 GUID#####  
L6 8 L3 AND L4 AND L5

FILE 'CA' ENTERED AT 11:21:41 ON 16 NOV 2004

L7 53 L6  
L8 508 INDEX-GUIDED  
L9 3 L7 AND L8  
L10 14 L3 AND L8

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.L6 ANSWER 8 OF 8 INSPEC (C) 2004 IEE on STN  
AN 1998:6095590 INSPEC DN A9901-4255P-038; B9901-4320J-046  
TI Gain characteristics of InGaN/GaN quantum well diode lasers.  
AU Song, Y.-K.; Kuball, M.; Nurmikko, A.V. (Div. of Eng., Brown Univ., Providence, RI, USA); Bulman, G.E.; Doverspike, K.; Sheppard, S.T.; Weeks, T.W.; Leonard, M.; Kong, H.S.; Dieringer, H.; Edmond, J.  
SO Technical Digest. Summaries of Papers Presented at the Conference on Lasers and Electro-Optics. Conference Edition. 1998 Technical Digest Series, Vol.6 (IEEE Cat. No.98CH36178)  
Washington, DC, USA: Opt. Soc. America, 1998. p.224 of 559 pp. 8 refs.  
Conference: San Francisco, CA, USA, 3-8 May 1998  
Sponsor(s): IEEE/Lasers & Electro-Opt. Soc.; OSA-Opt. Soc. America; Quantum Electron. Div. Eur. Phys. & Opt. Soc.; Japanese Quantum Electron. Joint Group  
Price: CCCC 1 55752 521 8/98/\$15.00  
ISBN: 1-55752-339-0  
DT Conference Article  
TC Experimental  
CY United States  
LA English  
AB We report on gain spectra of InGaN/AlGaIn MQW SCH diode lasers, grown and fabricated on 6H-SiC substrates. The active medium was composed of 8 QWs with a nominal indium composition of  $x=0.1$ . The devices were index **guided ridge waveguide** structures with a typical cavity length of 500  $\mu\text{m}$  and a mesa width of 5  $\mu\text{m}$ . The gain studies are based on the analysis of the spontaneous emission spectra of the devices, collected normal to the resonator axis as a function of injection, while making use of fundamental connections between spontaneous emission, stimulated emission, and absorption. An example of the gain/absorption spectra in the InGaIn MQW diode laser at room temperature is shown.  
CC A4255P Lasing action in semiconductors; A4260B Design of specific laser systems; B4320J Semiconductor lasers  
CT GALLIUM COMPOUNDS; III-V SEMICONDUCTORS; INDIUM COMPOUNDS; QUANTUM WELL LASERS; SPONTANEOUS EMISSION; STIMULATED EMISSION; WAVEGUIDE LASERS  
ST InGaIn/GaN quantum well diode lasers; gain characteristics; MQW SCH diode lasers; 6H-SiC substrates; **index guided ridge waveguide structures**; spontaneous emission spectra; stimulated emission; gain/absorption spectra; room temperature; InGaIn-AlGaIn; SiC  
CHI InGaIn-AlGaIn int, AlGaIn int, InGaIn int, Al int, Ga int, In int, N int, AlGaIn ss, InGaIn ss, Al ss, Ga ss, In ss, N ss; SiC sur, Si sur, C sur, SiC bin, Si bin, C bin  
ET Ga\*In\*N; Ga sy 3; In sy 3; N sy 3; InGaIn; In cp; cp; Ga cp; N cp; Ga\*N; GaIn; Al\*Ga\*N; Al sy 3; AlGaIn; Al cp; C\*H\*Si; is; H is; 6H; SiC; Si cp; C cp; 6H-SiC; V; H-SiC; Al\*Ga\*In\*N; Al sy 4; sy 4; Ga sy 4; In sy 4; N sy 4; InGaIn-AlGaIn; C\*Si; Al; Ga; In; Si

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L7: Entry 109 of 115

File: EPAB

May 31, 2000

PUB-NO: EP001005124A2

DOCUMENT-IDENTIFIER: EP 1005124 A2

TITLE: Semiconductor light emitting device and its manufacturing method

PUBN-DATE: May 31, 2000

## INVENTOR-INFORMATION:

NAME	COUNTRY
YAMAGUCHI, TAKASHI	JP
KOBAYASHI, TOSHIMASA	JP
KIJIMA, SATORU	JP
KOBAYASHI, TAKASHI	JP
ASATSUMA, TSUNENORI	JP
ASANO, TAKEHARU	JP
HINO, TOMONORI	JP

## ASSIGNEE-INFORMATION:

NAME	COUNTRY
SONY CORP	JP

APPL-NO: EP99123523

APPL-DATE: November 25, 1999

PRIORITY-DATA: JP33585398A (November 26, 1998)

INT-CL (IPC): H01 S 5/323; H01 S 5/223; H01 L 33/00

EUR-CL (EPC): H01S005/323

## ABSTRACT:

CHG DATE=20000704 STATUS=O> A GaN compound semiconductor laser includes an AlGaN buried layer which buries opposite sides of a ridge stripe portion formed on a p-type AlGaN cladding layer. The AlGaN buried layer is made by first patterning an upper part of the p-type AlGaN cladding layer and a p-type GaN contact layer into a ridge stripe configuration by using a SiO<sub>2</sub> film as an etching mask, then growing the AlGaN buried layer non-selectively on the entire substrate surface to bury both sides of the ridge stripe portion under the existence of the SiO<sub>2</sub> film on the ridge stripe portion, and thereafter selectively removing the AlGaN buried layer from above the ridge stripe portion by etching using the SiO<sub>2</sub> film as an etching stop layer. Thus, the GaN compound semiconductor laser is stabilized in the transverse

mode, intensified in output power, and improved in lifetime.

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L7: Entry 110 of 115

File: EPAB

Jan 12, 2000

PUB-NO: EP000971465A1

DOCUMENT-IDENTIFIER: EP 971465 A1

TITLE: COMPOUND SEMICONDUCTOR LASER

PUBN-DATE: January 12, 2000 X

## INVENTOR-INFORMATION:

NAME

TAKATANI, KUNIHIRO

COUNTRY

JP

## ASSIGNEE-INFORMATION:

NAME

SHARP KK

COUNTRY

JP

APPL-NO: EP98910983

APPL-DATE: March 25, 1998

PRIORITY-DATA: JP07477997A (March 27, 1997)

INT-CL (IPC): H01 S 5/223; H01 S 5/323

EUR-CL (EPC): H01S005/223; H01S005/323

## ABSTRACT:

CHG DATE=20031205 STATUS=O> A compound semiconductor laser of a III group nitride semiconductor of the present invention includes a first cladding layer 104 of a first conduction type formed on a substrate 101, an active layer 106 formed on the first cladding layer, a second cladding layer 108 of a second conduction type formed on the active layer 106, and a buried layer 110 formed on the second cladding layer 108, the buried layer having an opening portion for constricting a current in a selected region of the active layer, wherein an upper portion of the second cladding layer 108 has a ridge portion, the ridge portion residing in the opening portion of the buried layer 110, and the buried layer 110 does not substantially absorb light output from the active layer 106, and the buried layer has a refractive index which is approximately identical with that of the second

cladding layer 108.

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Oct 8, 1998

PUBN-DATE: October 8, 1998

## NAME \_\_\_\_\_

TAKATANI, KUNIHIRO

COUNTRY

JP

## NAME \_\_\_\_\_

SHARP KK

TAKATANI KUNIHIRO

COUNTRY

JP

JP

APPL-NO: JP09801308

APPL-DATE: March 25, 1998

PRIORITY-DATA: JP07477997A (March 27, 1997)

INT-CL (IPC): H01 S 3/18

EUR-CL (EPC) : H01S003/19

ABSTRACT:

A compound semiconductor laser made of a III nitride semiconductor, comprising a first clad layer (104) of first conductivity type on a substrate (101), an active layer (106) on the first clad layer, a second clad layer (108) of second conductivity type on the active layer (106), and a buried layer (110) formed on the second clad layer (108) and having an aperture for constricting a current into a selected region in the active layer. The second clad layer (108) has a ridge portion on an upper part thereof, and the ridge portion is located inside the aperture of the buried layer (110). The buried layer (110) does not substantially absorb a light emitted from the active layer (106) and has a refractive index of substantially the same as that of the second clad layer (108).

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## WEST Search History

DATE: Tuesday, November 16, 2004

Hide?	Set Name	Query	Hit Count
		<i>DB=EPAB; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L9	WO-9844606-A1.did.	1
<input type="checkbox"/>	L8	WO-9844606-A1.did.	1
		<i>DB=PGPB,USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L7	l4 and l5 and l6	115
<input type="checkbox"/>	L6	bur\$5 adj(layer or film)	15888
<input type="checkbox"/>	L5	ridge\$2	196588
<input type="checkbox"/>	L4	L3 or l2 or l1	30188
<input type="checkbox"/>	L3	nitride adj3 semiconductor	14613
<input type="checkbox"/>	L2	gan	17322
<input type="checkbox"/>	L1	gallium adj nitride	7784

END OF SEARCH HISTORY